PROPOSED TECHNICAL STANDARDS FOR GAMING DEVICES AND ON-LINE SLOT SYSTEMS

(03/17/04 Proposed Amendments to Adopted Standards of 05/22/03)

1.010 Definitions. As used in these standards unless the context requires otherwise:

1. "Alterable Media" is any form of storage device that allows the modification of the programs or data on the device during the normal operation of the gaming device. This does not include devices typically considered to be alterable but through either software or hardware means approved by the chairman, have been rendered un-alterable.

2. [1.] "Cashable credits" means the monetary units displayed on a credit meter that are redeemable for cash.

3.[2.] "Chairman" means the chairman of the state gaming control board or his designee.

4. "Complete Voucher": A complete voucher contains all of the required information and is of a quality that can be redeemed through the use of a barcode reader.

5. "Conventional ROM Device" is a device incapable of being altered while installed in a gaming device and may contain executable programs or data that are directly addressed by a processor.

6.[3.] "Credit meter" means a slot machine indicator that displays the number of denominational credits or monetary value available to a patron for wagering.

7.[4.] "Debit instrument" means a card, code or other device with which a person may initiate an electronic funds transfer or a wagering account transfer.

8. "Duplicate Voucher": A duplicate voucher is any reprinted complete or incomplete voucher.

7.[5.] "Electronic funds transfer" means a transfer of funds from an independent financial institution to a gaming device through a cashless wagering system.

8.[6.] "Inappropriate coin-in" is a legal coin or token of the correct denomination which has been accepted by a gaming device after the device has already accepted its maximum number of coins or when the device is in a state which normally rejects additional coins. **[An inappropriate coin-in may occur due to electrical or mechanical timing limits in coin handling equipment.]**

9. "Incomplete Voucher": An incomplete voucher contains, at a minimum, the voucher validation number printed across the printed leading edge, but is not of a quality that can be redeemed through the use of a barcode reader.

10.[7.] "Leakage Current" is any electrical current which flows when a conductive path is provided between exposed portions of a gaming device and the environmental electrical ground when the gaming device is isolated from the normal AC power ground.

11.[8.] "Non-cashable credits" means the monetary units displayed on a credit meter that have no cash redemption value.

12.[9.] "On-line slot system" means, as used in these standards, an on-line slot metering system, a cashless wagering system, or both.

13.[10.] "Promotional account" means an electronic ledger used in a cashless wagering system to record transactions involving a patron or patrons that are not otherwise recorded in a wagering account.

14. "Print Failure": A print failure is a condition following the failed attempt to print a complete or incomplete voucher.

15. "Presentation Error": A presentation error is a condition where a complete or incomplete voucher has been printed, however, the voucher is not presented to the patron for removal.

16.[11.] "Random Access Memory" (RAM) is the electronic component used for computer workspace and storage of volatile information in a gaming device. The term does not include memory which is used exclusively for bit-mapped video displays.

17.[12.] "Random Number Generator" is a hardware, software, or combination hardware and software device for generating number values that exhibit characteristics of randomness.

18.[13.] "Read Only Memory"… " (ROM) is the electronic component used for storage of non-volatile information in a gaming device. The term includes Programmable ROM and Erasable Programmable ROM.

19. "Replacement Voucher": A replacement voucher is any voucher that is printed following a failed attempt to print a complete or incomplete voucher.

20.[14.] "Slot machine coupon" means a printed wagering instrument that has a fixed dollar wagering value that can only be used to acquire non-cashable credits.

21.[15.] "Slot machine payout receipt" means an instrument that is redeemable for cash and is either issued by a gaming device or as a result of a communication from a

gaming device to associated equipment that cannot be accepted by gaming devices for wagering purposes.

22.[16.] "Slot machine wagering voucher" means a printed wagering instrument that has a fixed dollar wagering value that can only be used to acquire an equivalent value of cashable credits or cash.

23.[17.] "Tilt condition"… is a programmed error state for a gaming device. A tilt condition has occurred when the device detects an internal error, malfunction, or attempted cheating, and it disallows further play until the error is resolved.

24.[18.] "Wagering account" means an electronic ledger for a cashless wagering system patron deposit account wherein only the following types of transactions are recorded:

(a) Deposits and withdrawals of cash or cash equivalents at a designated area of accountability;
(b) Deposits initiated with a debit instrument;
(c) Wagering account transfers to and from gaming devices;
(d) Wagering account adjustments; and
(e) Other transactions approved by the chairman.

25.[19.] "Wagering account transfer" means a transfer of funds between a cashless wagering system wagering account and a gaming device.

26.[20.] "Wagering instrument" means, as used in these standards, a representative of value, other than a chip or token, that is issued by a licensee and approved by the board for use in a cashless wagering system and includes slot machine coupons and slot machine wagering vouchers.
(Adopted 9/89. Amended; 11/20/97; 5/03.)

STANDARD 1

INTEGRITY OF DEVICES

1.010 Reserved.

1.020 Electrical interference immunity. No Change
(Adopted: 9/89.)

1.030 Coin acceptor and receiver. No Change
(Adopted: 9/89. Amended: 11/20/97.)

1.035 Change vouchers or coupons. No Change
(Adopted: 5/03. Effective: 2/1/04.)

1.040 Hoppers. No Change
(Adopted: 9/89.)

1.045 Printers.

1. Printer mechanisms on gaming devices must be designed to detect low paper, paper out**, presentation error, printer failure**, and paper jam conditions. **[The device control program must monitor the printer mechanism for these error conditions in all active game states that do not indicate error conditions]**.

2. Printers must be mounted inside a lockable area of the gaming device.
(Adopted: 5/03. Effective: 2/1/04.)

1.050 Physical security. No Change
(Adopted: 9/89. Amended: 11/20/97.)

1.060 Communication with associated equipment. No Change
(Adopted: 9/89.)

1.070 Error conditions.

1. Gaming devices must **[be capable of]** detect**[ing]** and display**[ing]** the following conditions during idle states or game play **[on demand]**. These conditions may be automatically cleared by the gaming device upon completion of a new play sequence.

(a) Power reset.
(b) Door open.
(c) Door just closed.
(d) Inappropriate coin-in if the inappropriate coin(s) in are not returned to the player.

2. Gaming devices must be capable of detecting and displaying the following error conditions **which must disable game play and** may only be cleared by an attendant:

(a) Coin-in error (coin jam, reverse coin-in, etc.)

(b) Coin-out error (coin jam, extra coin paid out, etc.)

(c)[(a)] Hopper empty or timed-out (Hopper failed to make payment).

(d) Hopper runaway **[or extra coins paid out]**.

[(e) Reverse coin-in.]

(e)[(f)] Low RAM battery (a designated battery replacement schedule may be used in lieu of a low battery detection scheme).

(f) Print Failure, if the gaming device has no other means to make a payout. A Replacement voucher may be printed once the failure condition has been cleared.

(g) [Effective 2/1/04] Printer mechanism paper jam. **A paper jam condition must be monitored at all times during the print process.**

(h) [Effective 2/1/04] Printer mechanism paper out, if the gaming device has no other means to make a payout.

(i)[(c)] Program error (Defective program storage media).

(j) Reel spin error of any type including a mis-index condition for mechanical reels. The specific reel number must be identified. If a tilt occurs while the reel(s) are spinning the gaming device must spin the reel(s) at a slow speed.

(k) Removal of control program storage media.

(l)[(b)] Uncorrectable RAM error (RAM defective or corrupted).

3. Gaming devices must be capable of detecting and displaying the following error conditions which must be cleared by an attendant **[or upon initiation of a new play sequence if the error condition is transparent to the player, or if the error condition is clear to the player and the player is informed that initiation of a new play will clear the error]. Game play may continue if an alternative method is available to complete the transaction or the condition does not prohibit the transaction from being completed.**

(a) **[Coin-in error.] Hopper empty or timed-out (Hopper failed to make payment).**

[(b) Coin-out error or hopper failed to make payment.]

[(c) Reel spin error of any type including a mis-index condition for mechanical reels. The specific reel number is to be identified in the error indicator.]

(b)[(d)] [Effective 2/1/04] Printer mechanism low paper.

(c) Print Failure

(d) Printer mechanism paper out.

4. A description of device error codes and their meanings must be affixed inside the gaming device **unless the displayed device error codes are self-explanatory**.
(Adopted 9/89. Amended: 5/03. Effective: 9/89 except (2)(g), (2)(h) and (3)(d) as noted.)

1.080 Control program requirements.

1. All gaming devices **[which have control programs residing in storage media that is not alterable through any use of the circuitry or programming of the gaming device itself]** must employ a mechanism approved by the chairman to verify **[executable]** **control** program**s** **[code]** and data **[which may affect payouts or game outcome]**. The mechanism used must detect **at least** 99.99 percent of all possible media failures**. If these programs and data are to operate out of volatile RAM, the program that loads the RAM must reside on and operate from a Conventional ROM Device. [and must reside in and execute from storage media that is not alterable through any use of the circuitry or programming of the gaming device.]**

2. All **[gaming devices that have control programs residing in storage media that are alterable through any use of the circuitry or programming of the gaming device itself must:]** **gaming devices having control programs or data stored on memory devices other than Conventional ROM Devices must**:

(a) Employ a mechanism approved by the chairman which verifies that all control program components, including data and graphic information, are authentic copies of the approved components. The chairman may require tests to verify that components used by Nevada licensees are approved components. The verification mechanism must have an error rate of less than 1 in 10 to the 38th power and must prevent the execution of any control program component if any component is determined to be invalid. Any program component of the verification **or initialization** mechanism must **be stored on a Conventional ROM Device that must be capable of being authenticated using a method approved by the chairman**. **[reside in and execute from storage media that is not alterable through any use of the circuitry or programming of the gaming device.]**

(b) employ a mechanism approved by the chairman which tests unused or unallocated areas of any alterable **media** **[memory]** for unintended programs or data and tests the structure of the storage media for integrity. The mechanism must prevent further play of the gaming device if unexpected data or structural inconsistencies are found;

(c) Provide a mechanism for keeping a record, in a form approved by the chairman, anytime a control program component is added, removed, or altered **on any alterable media**. The record must contain the date and time of the action, identification of the component affected, the reason for the modification and any pertinent validation information;

(d) Provide**, as a minimum, a two-stage mechanism for validating all program components on demand via a communication port and protocol approved by the chairman. The first stage of this mechanism must verify all control components. The second stage must be capable of completely authenticating all program components, including graphics and data components in a maximum of 20 minutes. The mechanism for extracting the authentication information must be stored on a Conventional ROM Device**

that must be capable of being authenticated by a method approved by the chairman. [a mechanism for extracting the validation information for all control program components on demand via a communication port approved by the chairman. A separate mechanism must be provided that tests the integrity of the validation information delivered via the communication port.]

(e) If approved before July 1, 2004, receive a waiver from the chairman for any modification to the device if the full implementation of this section can not be met. The chairman may waiver portions of this section if the manufacturer can demonstrate to the chairman's satisfaction that the imposition of the full standard would hinder the design of the device or pose a hardship due to limitations in the approved platform.

3. Any gaming device executing control programs from electrically erasable or **[other]** volatile memory must employ a mechanism approved by the chairman **that ensures the integrity of [which verifies on a continuous basis, that]** all control program components residing therein, including fixed data and graphic information **and ensures that they** are authentic copies of the approved components. Additionally, control program components, excluding graphics and sound components, must be fully verified at the time of loading into the electrically erasable or **[other]** volatile memory and upon any significant event, including but not limited to door closings, game resets, and power up. The mechanism must prevent further play of the gaming device if an invalid component is detected.

4. No Change

5. No Change

6. No Change

7. No Change

8. No Change

(Adopted: 9/89. Amended: 11/20/97; 5/03. Effective: 11/20/97 except (8) as noted.)

1.090 Bonus or Extended Game Features. All gaming devices which offer a bonus game or extended feature are prohibited from automatically initiating these features unless the gaming device meets the requirements of (1) or (2) and explains the mechanism for auto-initiation on the device glass or video display.

1. The patron is presented with a choice and specifically acknowledges their intent to have the gaming device auto-initiate the bonus or extended play feature by means of a button press or other physical/machine interaction.

2. The bonus or extended feature provides only one choice to the patron i.e.: Press button to spin wheel. In this case, the device may auto initiate the bonus or extended feature after a time out period of at least 2 minutes.

1.100 Reel strips

1. Given a physical reel strip of length L units containing N physical stops, each blank space must occupy a minimum of (L/N)*0.4 units. These blank symbols must be completely free of any portion of any adjacent symbol.

2. All non-blank and blank symbols must be centered in their respective space allocation.

1.110[1.090] Safety.

1. No Change

2. The power supply used in a gaming device must be designed to minimize leakage current in the event of intentional or inadvertent disconnection of the AC power ground. Leakage currents of greater than **1.0 [0.75]** milliamperes may be considered hazardous. The power supply must be appropriately fused or protected by circuit breakers. (Adopted: 9/89.)

STANDARD 2

PROPER ACCOUNTING FOR GAMING DEVICES

2.010 Changes to payout percentage No Change
(Adopted: 9/89. Amended: 5/03.)

2.020 Accounting of inappropriate coin-ins. No Change
(Adopted: 9/89.)

2.030 Payouts from the hopper. No Change
(Adopted: 9/89.)

2.040 [Effective 2/1/04] Meters.

1. No Change

2. No Change

3. No Change

4. No Change

5. Unless a tilt condition or other malfunction exists, gaming devices must have meters in units equal to the denomination of the device, in dollars and cents or in other units approved by the chairman, continuously displaying to a player the following information as it pertains to the **current game selection,** current play or monetary transaction:

(a) The coins or credits wagered;
(b) The coins or credits won, if applicable;
(c) The coins paid by the hopper for a credit cash-out or a direct pay from a winning outcome;
(d) The credits available for wagering, if applicable.

6. No Change
(Adopted: 9/89. Amended: 11/20/97; 5/03.)

2.050 [Effective 2/1/04] Credit play requirements. No Change
(Adopted: 9/89. Amended: 11/20/97; 5/03.)

2.060 Award cards. No Change
(Adopted: 9/89. Amended: 11/20/97.)

2.070 Jackpot Odds. The probability of hitting any advertised jackpot that is offered by a gaming device may not exceed 100 million to one.

STANDARD 3

INTEGRITY OF AND PROPER ACCOUNTING FOR ON-LINE SLOT SYSTEMS

No Change